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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/449,649

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EXAMINER

VOLPER, THOMAS E

ART UNIT

PAPER NUMBER

2665

10

DATE MAILED: 05/05/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/449,649

Applicant(s)

NAJDA ET AL.

Examiner

Thomas Volper

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 February 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Response to Arguments

1. Applicants' arguments filed 10 February 2004 have been fully considered but they are not persuasive.

2. In response to Applicants' arguments that Kubo fails to disclose or suggest a device to "replace the components of the signals on the first path with copies of components of signals running in an opposite direction on a second path of the ring such that at any location in the network both paths provide all signals", the Examiner respectfully disagrees. Kubo discloses that a transmitting node equipment sends duplicate cells in opposite directions on the two paths of the rings. The receiving node selects one of the paths on which to receive the cell (col. 16, lines 34-42). Thus, the receiving node has copies of the same cell available on both paths. In the case of a break on the paths, as shown in Figure 23, the nodes on either side of the break perform a loopback to provide copies of the cell on both paths to the other nodes. For example, if node A is the transmitting node and sends duplicate copies of a cell on both paths 12a and 12b, node D will only receive a copy of the cell on path 12b due to the break between nodes B and C. However, it is shown that node C loops back a copy of the cell from path 12b onto path 12a, in order to replace the copy of the cell that did not reach node C on path 12a because of the break. After the loopback is performed, node D receives copies of the cell on both paths 12a and 12b. In this manner Kubo meets the limitation of providing all signals on both paths by replacing copies of components of signals on a first path with copies of signals running in an opposite direction on a second path.

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Applicants also argue that the conversion of the VPI/VCI value at the receiving terminal is contrary to the limitation stated above, that both paths must provide copies of the same cell. However, the conversion of VPI/VCI value is performed at the receiving terminal after that cell is selected for reception. The receiving terminal has copies of the same cell to choose from on the opposite paths as described above. The loopback operation shown in Figure 23 demonstrates the limitation of replacing a copy of a cell on a first path with a copy of the cell on a second path.

In response to Applicants' argument that Huggins fails to disclose the aforementioned feature of replacing copies of a signal, the Examiner states that the rejection of claims 1, 10 and 19 relies on Kubo for this limitation as described in the preceding paragraphs. Huggins is combined with Kubo to provide the feature of a central office, which the Examiner stated in the previous Office action would have been obvious to combine with the ring system provided by Kubo in order to have a node that controlled the flow of traffic on the ring.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kubo et al. (US 5,636,215) in view of Huggins et al. (US 6,198,744).

Regarding claims 1, 10 and 19, Kubo discloses a plurality of remote terminals being connected by a ring with two paths that transfer signals in opposite directions relative to each

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path (see Figure 29). Cell switch (70) in Figure 27, and ATM interface (72) in Figure 28 represent the first multiplexer and asynchronous feeder multiplexer, respectively, of the present invention. Kubo discloses replacing components of signals on the first path, wherein the signal components are represented by cells, with copies of components of signals on the second path such that at any location in the network both paths provide all signals (see Figure 23; col. 16, lines 6-47). The loopback procedure shown in Figure 23 demonstrates that copies of a cell are provided on both paths of the ring even when there is a break in the paths. Kubo also discloses cell selection devices (75a and 75b) in a receiving node that either discard a cell or send a cell to an ATM terminal (13a) via a multiplexing unit (76) (col. 16, lines 26-33). Furthermore, the node equipment (73) chooses one path from which to receive cells based on, for example, the path having a reduced delay time (col. 16, lines 39-45). This chosen path represents the path with the best available signal, as in the present invention. Kubo fails to expressly disclose a central office for feeding duplicate signals on each path. Huggins discloses a central office (16 of Fig. 1) connected to an optical ring. The central office can statistically multiplex multiple data signals from various host digital terminals (38 of Fig. 1) into a data signal for transmission onto the ring (col. 2, lines 60-64). At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to provide a central office as one of the nodes in the ring network of Kubo that would feed duplicate signals along both paths on the ring. One of ordinary skill in the art would have been motivated to do this to control the flow of traffic onto the ring from terminals connected to a node acting as a central office.

Regarding claims 2-5, 11-14 and 20-23, as mentioned above, Kubo discloses cell selection units (75a and 75b), representing the protection logic of the present invention, that

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choose to either discard or select a cell. The path that is chosen from which to select a cell is based on the path having a reduced delay time, which is a measure of signal quality. In addition, the signal may be selected based on whether a loss of signal has been determined for one of the paths (see Figure 23). Kubo also shows that cells from each path may be chosen to form a composite output signal. This capability is demonstrated by the multiplexing unit (76) connection to the two cell selection units (75a and 75b) inside each ATM interface (72) (see Figure 28).

Regarding claims 6, 7, 9, 15, 16 and 18, Kubo discloses a ring that uses SDH technology (see Figure 26). It is well known that SDH is analogous to SONET, and that the basic data transfer vehicle of SONET is STS-1. In addition, the basic level of transport, STS-1, relates to a DS3 capacity.

Regarding claims 8 and 17, Kubo et al. in view of Huggins et al. fails to expressly disclose using metallic channels to form the first and second paths of a ring. It is well known in the art to use metallic channels to conduct electrical signals. At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to use metallic channels to form the ring in the teaching of Kubo et al. in view of Huggins et al. One of ordinary skill in the art would have been motivated to do this in the case that optical technology was not available.

Regarding claims 24-26, Kubo discloses switching cells on the ring and providing duplicate copies of cells on both paths of the ring, as stated above. The contents of these cells represent the components of the present invention.

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Conclusion

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.


6. Any inquiry concerning this communication, or earlier communications from the examiner should be directed to Thomas Volper whose telephone number is 703-305-8405 and fax number is 703-746-9467. The examiner can normally be reached between 8:30am and 6:00pm M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy Vu, can be reached at 703-308-6602. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-4750.

Thomas E. Volper

TEV

April 29, 2004


HUY D. VU
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